Results of the Residential Risk-Screening Evaluation for SWMUs 45-001, 45-002, 45-003, and 45-004 and AOC C-45-001

The results of the risk-screening assessment for the residential scenario for Solid Waste Management Units (SWMUs) 45-001, 45-002, 45-003, and 45-004 and Area of Concern (AOC) C-45-001 are presented in Tables I-4.2-32, I-4.2-33, and I-4.2-34 in Appendix I of the Phase II Investigation Report for Pueblo Canyon Aggregate Area. The total excess cancer risk is 4×10^{-6}, which is below the New Mexico Environment Department (NMED) target risk level of 1×10^{-5}. The hazard index (HI) is 0.8, which is below the NMED target HI of 1.0. The total dose is 0.5 mrem/yr, which is below the U.S. Department of Energy target dose limit of 15 mrem/yr.

The results of the residential vapor intrusion screening assessment are presented in Tables 1 and 2. The total excess cancer risk is approximately 4×10^{-8}, which is less than the NMED target cancer risk level of 1×10^{-5}. The HI is approximately 0.06, which is less than the NMED target HI of 1. The vapor intrusion cancer risk and HI do not change the residential total excess cancer risk and HI presented above.

Table 1
Residential Carcinogenic Screening Evaluation of Vapor Intrusion for SWMUs 45-001, 45-002, 45-003, and 45-004 and AOC C-45-001

Chemical of Potential Concern	Exposure Point Concentration (mg/kg)	Vapor Intrusion Risk-Based Concentration* (mg/kg)	Cancer Risk
Chloroform	0.000909	0.224	4.1E-08
		Total Excess Cancer Risk	**4E-08**

*Vapor intrusion risk values generated by the Johnson and Ettinger advanced soil model.

Table 2
Residential Noncarcinogenic Screening Evaluation of Vapor Intrusion for SWMUs 45-001, 45-002, 45-003, and 45-004 and AOC C-45-001

Chemical of Potential Concern	Exposure Point Concentration (mg/kg)	Vapor Intrusion Risk-Based Concentration[a] (mg/kg)	Hazard Quotient
Acetone	0.0257	1080	2.4E-05
Dichloroethene[1,1-]	0.00109	133	8.2E-06
Ethylbenzene	0.000221	665	3.3E-07
Isopropyltoluene[4-]	0.000897	226[b]	4.0E-06
Methyl-2-pentanone[4-]	0.0018	1990	9.0E-07
Methylnaphthalene[2-]	0.116	70.9	1.6E-03
Naphthalene	0.123	1.99	6.2E-02
Toluene	0.00155	289	5.4E-06
Trimethylbenzene[1,2,4-]	0.000235	4.31	5.5E-05
Xylene[1,2-]	0.000213	66.5	3.2E-06
Xylene[1,3+1,4-]	0.000655	66.5	9.8E-06
		HI	**0.06**

[a] Vapor intrusion risk values generated by the Johnson and Ettinger advanced soil model.

[b] Isopropylbenzene used as a surrogate based on structural similarity.